

Rockwell MANUFACTURING COMPANY

DELTA POWER TOOL DIVISION
PITTSBURGH 8, PENNSYLVANIA



PM-1853

3-16-59

34-600 HOMECRAFT 9" TILTING ARBOR SAW

IMPORTANT

Your Delta Circular Saw is a quality-built machine, capable of dependable, precision performance throughout its lifetime. To take full advantage of these capabilities you should thoroughly understand the construction and assembly of the saw and the proper techniques for operating it. Therefore we suggest you read this booklet carefully before assembling the saw and that you save it for future reference.

The saw you bought is the finest available of its class and it will provide you with many hours of happy homecrafting. The big capacity, ease of operation and safety features are the first things you will notice about it. Other famous Delta quality features are built into the machine and will become more apparent to you the more you use it. Its high degree of accuracy, for example, is a prime Delta feature and can be maintained for the life of the saw by means of a few simple adjustments.

We are sure you'll be proud of your new Delta 9" Tilting Arbor Circular Saw, just as we are proud of our quarter of a century of experience in building Delta power tools.

Your saw will accurately perform all the usual sawing operations: ripping (with the grain), crosscutting (against the grain), mitering (angle cutting), and beveling (slanted cutting). In addition, by using Delta designed accessories it will accurately perform jobs usually done on special machines. For instance, you can convert it to a moulding machine by replacing the saw blade with a Moulding Cutterhead No. 265 and replacing the regular table insert with a Moulding Insert No. 34-622. There are 53 different sets of Delta moulding cutter knives you can use with the cutterhead to produce literally thousands of various shapes. Moreover, Delta has over 1300 accessories available for use with all the power tools we produce. Many of these accessories can be used on more than one machine which is a good reason for equipping your shop completely with Delta Tools.

It is strongly recommended that for best results you use a Delta No. 62-253 motor with your saw. This motor ($\frac{3}{4}$ HP, 60 cycle, 3450 RPM) meets the specific requirements of the saw and will naturally give the best performance. Delta motors are built to Delta specifications by leading motor manufacturers who maintain authorized service stations throughout the United States and many foreign countries. Should your motor require service it is not necessary to send it back to the factory ----- you can take it to your local service station.

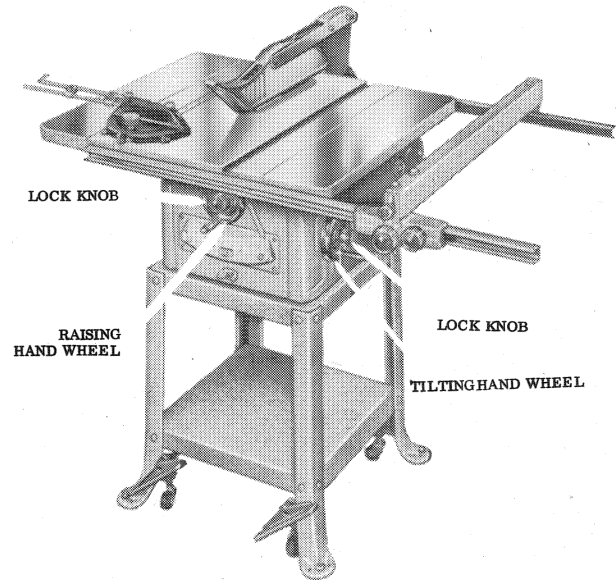


FIG. 1

Note the motor manufacturer's name on the motor nameplate. If you are not aware of the authorized service station, consult your dealer or check with any local Electric Motor Repair Company, who may be able to refer you to the motor service station authorized by the manufacturer.

Your 34-600 Delta Saw is shipped complete in two packages. One large package contains the Saw and one long package marked SP-34-600-C which contains all of the parts shown in Figure 2.

SETTING UP MACHINE

1. Remove protective coating from machined surfaces using kerosene or cleaning fluid, etc. . . . CAUTION: Do not use lacquer thinner or acetone.
2. We suggest a Delta Stand. Either the individual Delta No. 50-810 Steel Stand or Delta No. 50-308. The 50-308 Stand is built to mount both the 9" Tilting Arbor Saw and the 4" Jointer. Both Stands are of the proper height, will readily fit Delta machines and can be equipped with Delta Retractable Casters. Fasten the saw to the stand with the Hex Hd Cap Screws, washers and nuts furnished in package SP-34-600-E. See Fig. 3.
3. Attach front and rear guide rails using screws and spacers furnished in package SP-34-600-C. See Fig. 3.
4. Mount tilting handwheel and lock knob.
5. Place motor mounting plate, (47), in position as shown in Fig 5. Insert rod, (51), as a hinge pin. Note that one end of this rod has a small flat surface. When tightening set screw, (71), make sure it bears against this flat surface.

6. Place motor on motor mounting plate using the bolts, washers and nuts furnished in package SP-34-600-C. Before tightening the nuts, place the motor pulley on the motor shaft with the hub of the pulley extending out. When using Delta Motor Catalog 62-253, a 2½" pulley with ⅝" hole Delta Catalog 5250-B should be used. There is a small slot in the pulley and the motor shaft. The Delta motor is equipped with a square key that fits into these slots and held in place with the set screw. Caution: If the pulley does not readily slip on to the motor shaft, do not force it. Do not file down the shaft but rather check the hole in the pulley, the key slots and the motor shaft for any burrs or other obstructions which should be removed. If necessary, use a round file or piece of sandpaper wrapped around a small dowel rod and slightly enlarge the hole in the pulley. By using a straight edge, align the motor pulley with the arbor pulley and tighten motor pulley set screw. Check the set screw in the arbor pulley to make sure it is tight. Although it is tightened at the factory it is possible for it to become loose during transportation. Tighten the nuts on the motor mounting bolts. Place the belt on the pulleys.
9. Assemble switch through cabinet from the inside, see Fig. 4.
10. Place switch plate (2) Fig. 4 over threaded extension of switch.
11. Assemble round nut on threaded extension and tighten slightly. Turn switch and switch plate until the word "off" is in the up position.
12. Tighten round nut securely.
CAUTION: Before plugging in power cord, check the inside of the cabinet and make sure the cord is placed in such a position as to clear all moving parts.

OPERATING ADJUSTMENTS

We recommend a Delta motor Catalog 62-253, ¼ Horsepower, 115 Volt, 60 Cycle, Single Phase. We also suggest a separate electrical circuit for your power tools. This circuit should contain not less than #12 wire and be protected with a 20 Amp. time lag fuse. Never use long extension cords.

Your Delta Motor is equipped with a device known as "Thermal Overload Protection." Should your motor become overheated during a long period of running, this device will cause the motor to stop. If this should happen, merely turn the motor switch off, and wait a few minutes for the motor to cool. Press the red button on the side of the motor which will reset the overload device. The motor can then be turned on once again in the usual manner.

The following procedure should be followed when mounting the motor switch on the front of the saw cabinet.

1. Remove the cover on the motor end bell junction box by loosening the two screws which hold it in place.
2. Remove the switch from the motor by removing the round nuts and "on-off" plate.
3. Remove the lead from the center terminal of the switch, see Fig. 4 and splice to the black lead at one end of the cord (1).
4. Remove the lead from the other switch terminal and splice to the white lead at the same end of cord.
5. Place the cord in slot in motor end bell alongside the power cord, and replace the cover removed in Step 1.
6. Connect the black lead at other end of the cord, see Fig. 4 to the center terminal of switch.
7. Connect the white lead to the other switch terminal, see Fig. 4.
8. Mount the insulating cover, (33), as shown in Fig. 4.

1. Check Miter Gage according to separate instructions.
2. Raise saw blade to proper height by loosening lock knob and turning Raising Handwheel. See Fig. 1 then tighten lock knob.
3. Set blade at 90° by turning tilting handwheel.
4. Select piece of wood, say 1" x 6", 12" or 18" long and holding it firmly against miter gage, make a trial cut. Check with an accurate square across width and thickness.
5. If cut is not square, through thickness, refer to Fig. 5, loosen lock nut (75) and adjust stop screw (70) in or out. This screw should stop against the tilting worm when the blade is at 90° to the table. Make another trial cut and adjust further if necessary. Set the pointer at 0°. Notice the large easy to read scale for accurate angle settings.
6. If cut is not square across width, perhaps the travel of the material is not parallel to the saw blade.
7. To check for this condition, select a strip of wood approximately ¾" x ¾" x 10" or 12" long and clamp it securely to head of miter gage.
8. Run blade all the way up and cut off strip. NOTE: The teeth on the blade furnished with your saw are "set." In other words, one tooth is bent slightly to the right and the adjacent tooth is bent slightly to the left. You will notice when making a cut that the slot or "kerf" is wider than the thickness of the saw blade. This is to allow clearance of the blade and is the reason the teeth are "set."
With the strip still attached to the miter gage and the saw running, notice that even though it is cut off, the side edges of the saw teeth will slightly touch the cut end of the strip. Move the miter gage towards the rear and check if the saw teeth touch the cut end of the strip the same amount.
9. If the teeth at the rear do not touch, then it is apparent that the material is moving in a line away from the blade. This means that the mechanism below the table must be adjusted so that the miter gage slots in the table will be parallel to the blade.
10. Remove motor plug from electrical outlet, and tilt saw blade to 45°.
11. Use a ½" socket wrench long enough to reach the two hex head cap screws. "A" shown in Fig. 5 and loosen them slightly. (NOTE: The screws are not visible from the rear of the saw, but are between the front trunnion (59) and the saw cabinet.)
12. Slightly loosen screws marked "B" Fig. 5.

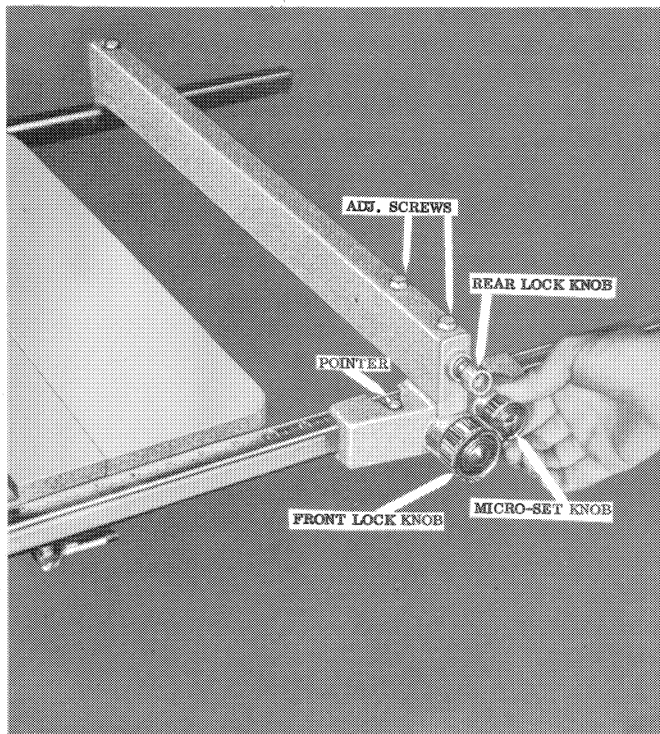


FIG. 2

13. The entire assembly below the saw table is now loose from the table and can be brought in line parallel with the miter gage slots. This important adjustment is possible because the screw holes in the trunnion casting are larger than the screw.
14. Tilt arbor back to 90°.
15. Review Steps 8 and 9 above to determine the amount that the assembly underneath must be moved to the right or left.
16. After the assembly is moved, tighten only one of screws "B" and one of "A" and make another trial cut.
17. If further adjustment is still necessary, repeat Steps 10, 11, and 12.
18. When adjustment is satisfactory, securely tighten both screws "A" and "B".

RAISING MECHANISM

To raise or lower the saw blade, loosen lock knob and turn raising handwheel Fig. 1. When desired height is obtained, tighten lock knob. We suggest raising the blade above 1/8" to 1/4" above the top surface of the material being cut. The blade can be raised to a maximum of 2 3/4" and a positive-stop built right into the saw prevents you from raising the blade beyond this point and damaging the blade and table insert.

After a long period of time, it is possible that the raising worm and the teeth on the arbor bracket will wear slightly. To compensate for this wear, these two parts can be brought closer together. This adjustment is possible because the sleeve (67), Fig. 5 contains an eccentric hole. By turning the sleeve the worm and shaft move upwards.

1. Remove lock knob and raising handwheel but do not remove pointer.
2. Use an end wrench and loosen lock nut (69). This nut can be easily reached from underneath saw. See Fig. 5.
3. Use the pointer as a lever and turn to the right or left until all the perceptible play between the worm and arbor bracket is removed. Reset pointer to 0°.

TILTING MECHANISM

To tilt the saw blade, loosen lock knob and turn tilting handwheel. When desired angle is obtained, tighten lock knob, Fig. 1.

TABLE INSERT

The table insert should always be flush with the table surface. To adjust, turn insert adjusting screws, (35) in or out. See Fig. 4.

RIP FENCE

The rip fence can be used to the right or left of the saw blade. It can be moved rapidly to the approximate position and then accurately set to the exact position by turning the Micro Set Knob. See Fig. 2. When the desired position is obtained, tighten front and rear Lock Knobs. See Fig. 2.

To check the rip fence, set it at one of the miter gage slots. As the front Lock Knob is tightened, the fence will align itself square with the front edge of the table. If the fence does not line up parallel with the miter gage slots, it requires adjustment. NOTE: The Rip Fence can only be properly adjusted if the saw blade is parallel to the miter gage slots as described previously under Operating Adjustments.

If adjustment is required, proceed as follows:

1. Loosen both Adjusting Screws. See Fig. 2 and Rear Lock Knob.
2. With Front Lock still tightened, move back end of fence to the right or left lining it up parallel to the miter gage slot and tighten rear Lock Knob and Adjusting screws.
3. Rip a piece of material and then accurately measure the width. Check the pointer on the front of the rip fence. See Fig. 2. If it is not pointing to the dimension, merely loosen screw and adjust.
4. The rip fence contains holes so that wooden facings can be readily attached for using the moulding cutter-head, dado head or for other special cutting operations.

SAW BLADE

The Saw Blade furnished is Delta No. 33-196. It is a 9" Combination blade suitable for both cross cutting (across the grain) and ripping (with the grain). When cross cutting or ripping for long periods of time, we suggest that a Delta cross cut No. 33-223 or Delta 33-198 rip blade be used. For very fine work a hollow ground blade should be used such as Delta 33-227.

Saw blades should always be sharp and unless you are capable of properly sharpening and setting saw blades, we suggest that you locate a reputable sharpening service nearby. Consult the classified section of your phone directory or inquire of any local cabinet shop, mill or lumber yard who might recommend someone.

Always keep your blades clean. Gum and pitch accumulation can easily be removed with Delta Gum and Pitch Remover No. 4051.

To remove saw blades, merely remove the table insert and hold a piece of wood against one of the teeth. Using the arbor nut wrench furnished in package SP-34-600-C, turn the arbor nut toward you. Remember, this nut can not readily come loose when the saw is running because it has a left hand thread.

Make sure the edge of the material to be ripped is straight. It is a difficult job to obtain a straight edge or surface to the material by hand methods. This can be done easily and accurately on a Delta Jointer. We suggest one as the next addition to your shop.

For extensive ripping, we suggest using a Delta No. 33-198 Rip Blade. Feed the work uniformly allowing the blade to cut without stalling. Naturally, thin or softer woods can be cut more rapidly than hard or thick woods.

Always remove the miter gage when ripping.

Always use a push stick or some similar device to feed the material, especially when ripping narrow or thin stock.

Always stand to the right or left of the blade to avoid the saw dust. Unless you have already purchased a blade guard for your saw, we suggest the Delta No. 34-671 "Supersafe" Blade Guard. This guard also has a device to prevent material from being kicked back.

Never use the rip fence as a stop when cross cutting or mitering narrow pieces.

There are numerous operations which can be performed on your Delta saw using the rip fence. In our Delta Publication No. 4701 "Getting the Most Out of Your Circular Saw and Jointer" we show you how simple it is to perform hundreds of various operations. We are sure you will want to take advantage of our offer as outlined on the warranty card which you received with your Delta Saw. Mail it in today.

CROSS CUTTING

The Delta No. 864 Miter Gage furnished with your saw is used for cross cutting or mitering. An accurate cut can be made on an accurate saw like your Delta only if surfaces of the material which lie against the table and miter gage are flat and straight.

Hold the material securely against the miter gage and firmly on the table. Unless you have already purchased the Delta No. 865 clamp attachment, we suggest you add this handy accessory to your shop. It is an inexpensive device for securely clamping work to the miter gage. Feed the work uniformly. If extensive cross cutting is to be done, we suggest using Delta No. 33-223 Cross Cut Blade.

Always move the rip fence as far away from the work as possible or remove it from the table entirely.

Always stand to the right or left of the saw blade to avoid the saw dust.

Always wait until the saw blade stops before removing small pieces of material near the saw blade.

When the saw is not in use, it is advisable to lower the blade below the table and remove plug from the electrical outlet.

GENERAL MAINTENANCE

To protect the table surface, we suggest periodic waxing using any available furniture wax. Remove any accumulation of pitch from the working parts inside the saw, using Delta Gum and Pitch Remover Catalog 4051. Do not use grease or oil on the raising or tilting worms but use powdered graphite. Also apply a small amount of graphite in the sliding ways of the front and rear trunnions.

The bearings in your Delta saw are already lubricated and sealed, and require no further lubrication. Be sure to keep your Delta motor clean by frequently blowing out the saw dust. If you have a Delta Homecraft Dust Collector, it is a simple matter to keep not only your motors clean but also your machines and entire workshop.

Should your Delta saw ever require replacement parts, they can be ordered from your dealer. If you are not able to perform any repairs on your Delta Saw, write the Delta Service Department:

Rockwell Manufacturing Company
Delta Power Tool Division
400 N. Lexington Avenue
Pittsburgh 8, Pennsylvania

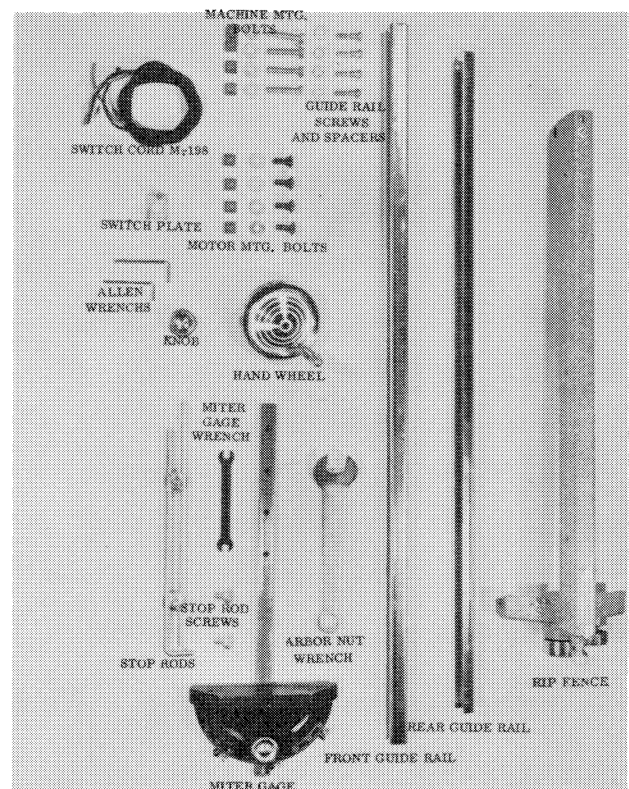


FIG. 3